

WHAT IS CLAIMED IS:

Sub B10/ 1. An antigen composition capable of eliciting an enhanced cytotoxic T cell response in the context of a major histocompatibility complex class I molecule (MHC class I), comprising an antigen having an added peptidic sequence which facilitates entry of said antigen into antigen presenting cells (APC).

10 2. The antigen composition of claim 1, wherein said added peptidic sequence comprises one or more sequences selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7.

15 3. The antigen composition of claim 1, wherein said added peptidic sequence comprises a sequence presented as CYS-[X-Y-Y-Y-Y-Y]<sub>n</sub>; wherein X= glu or asp, Y = ala, leu, ile, phe, gly, cys, met or val and n is greater than or equal to 3 or [X-Y-Y-Y-Y-Y]<sub>n</sub>; wherein X= glu or asp, Y = ala, leu, ile, phe, gly, cys, met or val and n is greater than or equal to 3.

20 4. The antigen composition of claim 2, wherein said antigen is a soluble protein antigen.

Sub B11/ 5. The antigen composition of claim 4 for use in immunizing a subject against a tumor or pathogen wherein said antigen is specific to the tumor or pathogen.

6. The antigen composition of claim 2, wherein said one or more added peptidic sequences are covalently linked to said antigen.

30 7. The antigen composition of claim 2 wherein said antigen is a fusion protein produced by translation of a continuous nucleotide coding sequence.

35 8. A therapeutic composition, comprising an antigen presenting cell (APC), stimulated by exposure *in vitro* to a modified antigen having an added peptidic sequence which antigen into APC, wherein said stimulated APC is effective to activate T-cells to produce a cytotoxic cellular immune response against said antigen, at a T-cell activation level that is higher than that produced by such APC stimulated by the antigen alone.

40 9. The therapeutic composition of claim 8, wherein said added

peptidic sequence comprises one or more sequences selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 and SEQ ID NO:7.

10. The therapeutic composition of claim 8, wherein said added peptidic sequence comprises a sequence presented as  $CYS-[X-Y-Y-Y-Y-Y]_n$ ; wherein  $X = \text{glu or asp}$ ,  $Y = \text{ala, leu, ile, phe, gly, cys, met or val}$  and  $n$  is greater than or equal to 3 or  $[X-Y-Y-Y-Y-Y]_n$ ; wherein  $X = \text{glu or asp}$ ,  $Y = \text{ala, leu, ile, phe, gly, cys, met or val}$  and  $n$  is greater than or equal to 3.

11. The therapeutic composition of claim 8, wherein said antigen is a soluble protein antigen.

12. The therapeutic composition of claim 8, for use in immunizing a subject against a tumor or pathogen wherein said antigen is specific to the tumor or pathogen.

13. The therapeutic composition of claim 8, wherein said one or more added peptidic sequences are covalently linked to said antigen.

14. The therapeutic composition of claim 8, wherein said antigen is a fusion protein produced by translation of a continuous nucleotide coding sequence.

15. A method of immunizing a subject against a tumor or pathogen having a known cancer- or pathogen-specific antigen, comprising:

- (a) obtaining a blood sample from a subject;
- (b) isolating a monocyte fraction from said blood sample;
- (c) enriching said monocyte fraction to obtain a population of

DC;

(d) pulsing said DC *in vitro* with a selected antigen composition comprising a selected antigen and an added peptidic sequence which facilitates entry of said antigen into antigen presenting cells (APC) by exposing said DC to the antigen composition in a manner effective to induce cell-surface presentation of one or more peptide antigens against which an immune response is desired; and

- (e) returning the pulsed DC to the subject.

16. The immunization method of claim 15, wherein said selected antigen is a cancer- or pathogen-specific antigen.

17. The immunization method of claim 15, for use in treating cancer wherein said selected antigen is a cancer-specific antigen.

18. The immunization method of claim 17, further comprising administering to the patient an anti-cancer agent.

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